DOCUMENT RESUME

ED 284 065 CE 047 904

AUTHOR Crites, John O.
TITLE Evaluation of Career Guidance Programs: Models, Methods, and Microcomputers. Information Series No. 317.
INSTITUTION Ohio State Univ., Columbus. National Center for Research in Vocational Education.
SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE 87
GRANT G008620030
NOTE 37p.
AVAILABLE FROM National Center Publications, National Center for Research in Vocational Education, 1960 Kenny Road, Columbus, OH 43210-1090 (Order No. IN 317--$4.75).
PUB TYPE Information Analyses (070) -- Viewpoints (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Career Guidance; Evaluation Criteria; *Evaluation Methods; *Guidance Programs; *Microcomputers; *Models; *Program Evaluation; Research Methodology; Secondary Education
IDENTIFIERS Evaluation Research

ABSTRACT

Evaluating the effectiveness of career guidance programs is a complex process, and few comprehensive models for evaluating such programs exist. Evaluation of career guidance programs has been hampered by the myth that program outcomes are uniform and monolithic. Findings from studies of attribute treatment interactions have revealed only a few obvious attributes that appear to interact with differential treatments (including such obvious variables as gender, ethnic/racial group, and chronological age). Where interactions have been found, they have been complex with barely significant effects or are confounded with main effects, which makes them difficult to interpret. Substituting person-oriented parameters for attribute treatment interactions changes the "inverted" pyramid of policy, program, and person to a "verted" pyramid with the person at the apex, program at the intermediate point, and policy at the base or foundation. This person-oriented approach to evaluating career guidance programs can be implemented through reverse programming. The conceptual framework of reverse programming encompasses three topics: career by objectives, a systems approach to career counseling, and evaluation models and methods. A systems approach to career guidance is possible because of the quick data processing that is attainable by using synchronized computer and peripheral technology. (MN)

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ED284065

Information Series No. 317

EVALUATION OF CAREER GUIDANCE PROGRAMS: MODELS, METHODS, AND MICROCOMPUTERS

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CE047904

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The Ohio State University
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Columbus, Ohio 43210-1090

1987

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FUNDING INFORMATION

Project Title:	National Center for Research in Vocational Education, Clearinghouse
Grant Number:	G008620030
Project Number:	051BH60001A
Act under Which Funds Administered:	Carl D. Perkins Vocational Education Act, P.L. 98-524, 1984
Source of Grant:	Office of Vocational and Adult Education U.S. Department of Education Washington, D.C. 20202
Grantee:	The National Center for Research in Vocational Education The Ohio State University 1960 Kenny Road Columbus, Ohio 43210-1090
Acting Executive Director:	Chester K. Hansen
Disclaimer:	This publication was prepared pursuant to a grant with the Office of Vocational and Adult Education, U.S. Department of Education. Grantees undertaking such projects under government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official U.S. Department of Education position or policy.
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FOREWORD

Career guidance programs provide comprehensive, individualized services (interventions) sustained over time to all or most students in a school. Evaluation of the effects of these programs is complex, and few comprehensive models for evaluating the effects of comprehensive career guidance programs exist. Components that support evaluation include comprehensive statements of desired student outcomes, methods of documenting the nature and extent of guidance interventions received by individual students, and criteria for quality career guidance programs. This paper reviews the status of career guidance evaluation and suggests developmental work needed to support more effective guidance programs.

The profession is indebted to Dr. John Crites for his scholarship in preparing this paper. Dr. Crites is Professor, School of Education and Social Policy, Northwestern University and director of the Career Assessment Clinic. Previously, he was Research Professor, Kent State University.

The National Center wishes to acknowledge the leadership provided to this effort by Dr. Robert E. Taylor, recently retired Executive Director. Dr. Norman C. Gysbers, Professor of Education, University of Missouri-Columbia; Dr. Edwin A. Whitfield, Associate Director, Guidance and Testing Section, Ohio State Department of Education; Dr. Lawrence Hotchkiss, Research Specialist 2, and Judith Sechler, Program Associate, of the National Center for Research in Voational Education, contributed to the development of the paper through their critical reviews of the manuscript. Dr. Wesley E. Budke, Senior Research Specialist, coordinated the paper's development, assisted by Ruth Gordon and Sandra Kerka, Program Associates, and Laurian Miguel, Program Assistant. Clarine Cotton, Jean Messick, and Sally Robinson provided clerical support, and Janet Ray served as word processor operator. Ciritta Park of the National Center's Editorial Services edited the paper.

Chester K. Hansen
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EXECUTIVE SUMMARY

Evaluation of career guidance programs has recurred because the programs mean so much to so many, both societally and personally. Their effectiveness is a critical question on several levels—policy determination, program implementation, and personal satisfaction and success. This paper cumulates the collective conclusions of previous reviews and extrapolates from past and present theory and research to extend beyond the conceptual framework to suggest new models and methods for evaluating career guidance programs, especially as they affect and influence the individual student. The focus of the review is on the person. First is a synopsis of what other reviews have found, concluded, and recommended regarding career guidance programs. Next is a critical analysis of these perspectives and proposals. Finally, the author proposes a new orientation toward career guidance programs, in which evaluation becomes part of intervention for each student.

Evidence from both survey and experimental studies indicates that the impact of career guidance programs on individual students is either inconclusive or incomplete. However, the encouraging summation of data is that participation in career guidance programs by individual students apparently facilitates their career maturation. They are more mature in their career choice attitudes and competencies (process variables) after a career development experience than they were before (or, as compared to a control group). Evidence from several empirical studies indicates that increased career maturity is related to greater subsequent realism of career choice. The implication of these findings is that career guidance that affects career choice *process* variables also impacts upon career choice *content* variables.

Analysis of the perspectives reveals that students are not highly involved in counseling services offered. They do not seek out the services. Student involvement in career guidance activities needs to be systematically programmed if students are to benefit from the services. In addition, the effects of career guidance programs are not uniform and monolithic. Policy statements typically assume the uniformity myth, and programs often are designed accordingly, yet individual students may react quite differently to the same career guidance program. Whatever the reason for these differential responses to treatment, the implication is that greater attention to individual differences among students needs to be given in both policy statements and program designs. Further, findings from studies of attribute treatment interactions have revealed few clearly identifiable attributes that appear to interact with differential treatments, including such obvious variables as gender, ethnic/racial group, and chronological age. Where interactions have been found, they are complex with barely significant effects or are confounded with main effects, which make them difficult to interpret. Choice of career guidance treatment becomes custom-made to the individual: what are his or her expected outcomes from counseling and how can these best be achieved with this person at this time.

Substituting *Person*-oriented parameters for attribute treatment interactions changes the "Inverted" pyramid of policy, program, and person to a "Verted" pyramid with the person at the apex, program intermediate, and policy on the base or foundation. This *Person*-oriented approach can be implemented through reverse programming.

Reverse programming starts with the outcomes of guidance for each person. Using common means to assess the extent to which each person's career objectives have been attained, the effectiveness of the intervention used with an individual student can be traced to the attributes and

their interaction with the treatment. In addition, these can be aggregated across students to provide an overall program evaluation. From these collective results, policy statements based upon empirical criterion evidence can then be stated.

The conceptual framework of reverse programming encompasses three topics: career by objectives, a systems approach to career counseling, and evaluation models and methods. The rationale for specifying career by objectives is likened to the rationale for specifying management by objectives. The procedure for career by objectives, like management by objectives, is to delineate what the desired outcomes of a program are and then to work back through each step necessary to achieve the objectives. This process not only establishes a criterion for measuring attainment of program objectives, but also eliminates unnecessary steps for goal attainment. This elimination of unnecessary steps increases the cost effectiveness of management by objectives and costs can be objectively defined. Thus, inherent in management-by-objectives programs—and similarly career-by-objectives programs—are the criteria for evaluating them. Changes in the implementation plan must be consistent with the objectives. Also, if revisions are needed in the objectives, new steps necessary for attainment must be delineated with the new objectives.

A systems approach is recommended to *Person*-oriented career counseling with three levels—theory, testing, and technology. Theory represents the distinction between career choice *process* and career choice *content*. The process variables (attitudes and competencies) determine the readiness of an individual to make a career choice. With sufficient career readiness, an individual can make a realistic career choice, implementing it in job search and placement.

On the testing level of the system, the process and content components of career choice are given operational definition by inventories, tests, booklets, and forms used. Through the Career Readiness Inventory and interpretation of results with the *Career Developer*, career maturity is increased. The student next takes aptitude and interest measures as a basis for career choice content. These are interpreted on the *Career Decision Maker*, a form that guides the student through each step in the career decision-making process. Finally, using the *Guide for Occupational Exploration*, the student translates aptitudes and interests into primary and secondary career paths projected over the ensuing 5 years.

Through synchronized computer and peripheral technology, quick processing of the data and the systems approach to career guidance are possible. Using the storage and retrieval capabilities of microcomputers is recommended for processing a variety of data on each student to assess goal attainment and to aggregate outcomes across students for the evaluation of career guidance programs in schools and districts. Although each student's file in the computer can be manipulated for any number of relevant statistical analyses, the basic evaluation software can be uniform for any situation in which there is interest in accountability and cost-benefit analysis. Thus, use of the microcomputer is recommended both for career assessment and counseling and for assessing the effectiveness of the *Person*-oriented approach to career guidance.

Combining the systems and *Person*-oriented approaches to career guidance in the schools provides a new way of prioritizing values and addresses several problems. Several conclusions can be drawn. Use of counselor time is more effective. Career guidance can be offered in addition to the usual guidance on college choice and school achievement, and students can be involved in the determination of their career development in a variety of individual and group formats, without affecting the integrity of the *Person*-oriented approach. Also, both teachers and parents can act as resource persons for students in implementing the program. Finally, evaluation of the career guidance program, with an objective outcome measure (goal attainment scale score), is built into the service delivery system. It is possible that the focus of the future for career guidance in the schools is upon a *Person*-oriented approach, implemented through systematic program development and inherently consistent with policy statements.

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INTRODUCTION

The centrality and salience of career as a fulcrum of life go unchallenged in both our folk wisdom and professional acumen. Freud (1962) heralded "work and love" (*arbeiten und lieben*) as the hallmarks of maturity, although he focused almost exclusively on love. But he also recognized that work is our "principal contact with reality," a theme echoed by many neo-Freudians in their observations on "work as integration" and as a major channel for sublimation (Hart 1947; Menninger 1942; Oberndorf 1951). Translated more recently into self-concept terms, this theme is reflected in Super's (1951, p. 89) proposition that "In choosing an occupation, one is, in effect, choosing a means of implementing a self-concept." Projected against the background of lifelong development, with its stages and crises, career as a focal point of human functioning, permeated by hopes and fears and successes and failures, accrues even more significance, for most of our waking hours are expended in either preparing for or engaging in career. Even as a juxtaposition, a counterpoint to nonwork time—weekends, holidays, vacations, retirement—career literally and figuratively defines by inclusion and exclusion the lives we lead and the leisure we enjoy. Excluding possibly religious faith and family ties, career offers the single most comprehensive and pervasive source of self-esteem available to us. From TV commercials that proclaim that "A man (sic) *is* what he does" to career theorists who equate identity with work, the assumption is the same: we are in and of and a part of our careers.

That problems arise in making this translation of self into career (Tiedeman and O'Hara 1963), however, needs no documentation other than the long history of career (vocational) guidance programs established to assist young and old, disabled and disadvantaged, men and women alike to make realistic career choices. A dominant societal value, emanating from the American credo and Horatio Alger myth, is that each person realize his or her capabilities through equal opportunity for their expression, yet due to both endogenous and exogenous factors interacting in and through the life space, across the developmental span from birth to death, barriers too often preclude this self-career actualization. Career guidance programs in many settings, but particularly in the schools, presumably address the problems that arise in the process of career decision making and seek solutions to them. Grounded in the Parsonian "matching model" of agreement between individual traits-and-factors and those required by occupations, as exemplified in contemporary theory and practice by Holland's (1985) RIASEC system, but also strongly influenced by, if not committed to, developmental career guidance, these programs encompass a wide range of interventions and outcomes (Campbell et al. 1983). Because they mean so much to so many, not only societally but also personally, how effective they are becomes a critical question on several levels—*policy* determination, *program* implementation, and *personal* satisfaction and success. It is not surprising, therefore, that there are periodic and recurrent reviews of career guidance programs to evaluate the extent to which they achieve their professed goals or objectives. This is still another review in a long series, dating back in recent literature to the mid-1960s and probably originating with Williamson and Bordin's (1941) classic paper almost 50 years ago. Why?

If the purpose of this review were only to "review the reviews," then it would indeed be trivial, although, cast into a broader context, there might be considerable virtue in cumulating the collective conclusions of previous reviews. To articulate such a conceptual framework, extrapolating from past to present theory and research, but extending beyond it to *change frame*, might suggest new models

and methods for the evaluation of career guidance programs, especially as they affect and influence the individual student. More specifically and pointedly, although this review recognizes the importance of policy determination and program implementation for career guidance, its focus is singularly *Person*-oriented. The review has three purposes. It begins with (1) a synopsis of what other reviews have found, concluded, and recommended regarding career guidance programs, then moves to (2) a critical analysis of these perspectives and proposals, and ends with (3) a proposed new orientation toward career guidance programs, in which evaluation becomes *part of intervention* for each and (it is hoped) every student.

EVALUATION OF CAREER GUIDANCE PROGRAMS: CONCEPTUAL AND EMPIRICAL

To evaluate career guidance programs empirically, it is necessary first to specify conceptually what their desired outcomes are. Then, research on the extent to which they attain these desiderata indicate how effective they are. In the discussion that follows, (1) conceptual criteria for the evaluation of career guidance programs, which have been proposed during the past half century, are summarized and (2) reviews of empirical research applying these criteria in the evaluation of career guidance programs during the last two decades are presented and their conclusions are enumerated and synthesized.

Conceptual Criteria

What the desired outcomes of career guidance programs should be are of two kinds—those which generally represent the "establishment" point-of-view, and those which question it, even to the extreme of proposing that career guidance programs be abolished. What are these pro and con positions on the value of career guidance, and what are their implications for evaluating its effectiveness?

Although most reviews of the conceptual heritage of career (vocational) guidance begin with Frank Parsons' (1909) monumental contribution of the still viable "matching model" to career decision making, it must be understood that career guidance in this country has a much broader and pervasive history (Brewer 1942) than a point-in-time event. It is in and of the warp and woof of those social evolutionary processes that became one of the dominant value orientations in American society around the turn of the century, and that have since served as the *raison d'etre* of the guidance movement (Crites 1981). The first definition of vocational guidance by the National Vocational Guidance Association (NVGA) in 1937 reflected an admixture of American individualism and Social Darwinism in its expressed aim "to assist the individual to choose, prepare for, enter upon, and progress in an occupation." More recently, to reflect contemporary emphases on the developmental processes underlying career choice and adjustment, Super (1951, p. 92) has proposed this revised definition of career guidance:

> It is the process of helping a person to develop and accept an integrated and adequate picture of himself (sic) and of his role in the world of work, to test this concept against reality, and to convert it into a reality, with satisfaction to himself and benefit to society.

Super's basic concept of developmental career guidance has been translated into and operationalized as "Guidelines for a Quality Career Guidance Program" (1979) by the NVGA Commission on Criteria for Career Guidance Programs. These guidelines are based upon the following conceptual and theoretical assumptions:

- Development occurs during the lifetime of an individual. It can be described in maturational terms denoting progression through life stages and the mastery of developmental tasks at each stage. Although research evidence is lacking, it seems unlikely that intervention can substantially shorten this maturational process.

- Individual development is influenced by both heredity and environment. Psychological, sociological, educational, political, economic, and physical factors affect development. Appropriate intervention strategies that focus on these factors can influence the quality of individual development.

- Development is a continuous process. Individual development can best be facilitated by intervention strategies that begin in the early years and continue throughout the life of the person. Programs that focus only at certain points or at certain stages in the individual's life will have limited effectiveness.

- Although development is continuous, certain aspects are dominant at various periods in the life span. Programs designed to facilitate career development should account for the dominant aspects at given stages.

- Individual development involves a progress differentiation and integration of the person's self and perceived world. Intervention strategies need to be designed to assist individuals during normal maturational stages of career development rather than to provide remedial assistance to individuals whose development has been damaged or retarded.

- Although common developmental stages can be observed and described during childhood and adult life, individual differences in progressing through these stages can be expected. Intervention programs should provide for these differences, making no assumption that something is "wrong" with those who progress at atypical rates.

- Excessive deprivation with respect to any single aspect of human development can retard optimal development in other areas. Optimal human development programs are comprehensive in nature, not limited to any single facet. It is recognized that those who suffer from deprivation may require special and intensive assistance. Where deprivation is long-term, short-term intervention is not likely to be sufficient.

Inherent in these propositions is not only the essence of what contemporary career guidance *should be* but also what it *might become* given certain revisions and reformulations based upon critiques and evaluations of it.

Contrary points of view, which have questioned both the usefulness of career guidance and the precepts of career development theory upon which it is based, are relatively few, but they have served an "honest broker" function as well as suggesting possible new perspectives on old issues and problems. Probably the most critical was Barry and Wolf's (1962) book entitled *An Epitaph for Vocational Guidance*. They enumerated and defined five "myths" that they saw as outmoded and unsubstantiated beliefs that undergirded the conceptual and operational framework of career (vocational) guidance in the early 1960s. These were what they called the myths of:

1. **The "single" theory**—that only the "matching model" of Parsons (1909) triparite analyses of the individual, the occupation, and the relationship between them explains career choice.

2. **Measurement**—that human personality (intelligence, aptitude, achievement, interests, and personal characteristics) can be quantified with tests and that tests can predict educational and vocational successes.

3. **Classification systems**—that available methods of classifying occupations (e.g. the *Dictionary of Occupational Titles*) are useful for students.

4. **Information**—"(1) that formal information is authentic and factual; (2) that specific information about the world of work is valid for and applicable to the future; (3) that such information meets student needs and produces important learnings; and (4) that such information furnishes the basis for reasoned decisions." (Barry and Wolf 1962, p. 89)

5. **Realism**—that there is actually some criterion or entity called "reality" against which a student's career choices can be compared for their practicality and practicability.

These myths have largely been dispelled (Crites 1969) by the formulation of career development theory, construction of career maturity measures, revision of occupational classification systems, compilation of more understandable and useful occupational information, and new conceptions of choice realism in the years since Barry and Wolf's (1962) book, but several implications they drew from the myths still have currency and validity. These implications—"a holistic approach, a concept of personality as dynamic, the importance of self-concept, an understanding of values; a recognition of (individual) differences, and learning as internalization" (Barry and Wolf 1962, p. 199)—converge upon the main theme of this review: that effective career guidance programs must be *Person*-oriented.

Much in the same tenor, although not as iconoclastic, Ginzberg (1971) expressed many of the same criticisms as Barry and Wolf. His "advice to advice-givers," as he puts it (pp. 288-289), led to several recommendations. If there is one general extrapolation that can be made from his recommendations, it is that the school counselor must be educated and empowered to deliver career guidance to students more effectively. Coupled with the recommendations of Barry and Wolf, it is clear that these critics of career guidance are focusing upon the discrepancy between policy statements and program objectives, on the one hand, and person services, on the other. The principal question, therefore, is: How can this gap be closed?

On a more theoretical plane than either Barry and Wolf or Ginzberg, Warnath (1975) questions the fundamental assumptions underlying the entire career guidance enterprise. Central to his position are propositions such as these:

- The needs of the individual are subordinated to the goals of the organization.

- Career development is an abstract construct. It permits vocational theorists to hypothesize about factors that appear to affect vocational decision making without regard for the quality of jobs in which people eventually find themselves.

- The vocational theorists have ignored the growing number of writers who seriously question the myth of the meaningfulness of work in our industrial society . . . that is the central issue, which vocational theorists and counselors have avoided. The world of work as they view it no longer exists (p. 422, et passim).

Although written over a decade ago and somewhat overstated, Warnath nevertheless makes a telling point: vocational theory and career guidance practice are "almost uniformly grounded on the proposition that jobs are intrinsically satisfying." Yet years of research on job satisfaction indicate that only at the upper levels of the occupational hierarchy are the rewards of work intrinsic (Crites 1969). Warnath compellingly argues that for the vast majority of workers, the basic assumption underlying the "matching model"—that satisfaction in work follows from an optimal "fit"—is invalid for career guidance programs. His proposal, however, that counselors assist clients to "search for means other than paid employment through which people can gain meaning from life" (Warnath 1975, p. 428), appears implausible. More feasible would be a focus upon what kinds of satisfaction in work—intrinsic, extrinsic, or concomitant—each person can find in making a career choice.

Empirical Research

Evaluative reviews of career guidance are of two kinds—qualitative and quantitative. The former, such as those by Myers (1971), Oliver (1979), Fretz (1981), Holland, Magoon, and Spokane (1981), and Campbell et al. (1983), are narrative summaries and critiques of the research literature. In contrast, the latter either report empirical findings from nationwide surveys and statistical analyses (Campbell 1968; Hotchkiss and Dorsten 1985) or conduct meta-analyses of the cumulated effects sizes of "between paradigm" (Crites 1983) studies found in the literature on career guidance programs (or, more accurately, all kinds of vocational interventions) (Spokane and Oliver 1983). Each of these reviews is briefly summarized and then conclusions from all of them are drawn.

Campbell

A nationwide questionnaire survey of counselors, students, parents, teachers, and principals in 353 schools (academic, vocational, and comprehensive in both urban and rural areas), Campbell's (1968) study was designed to gather data on the following facets of career guidance programs, with the findings indicated:

- **The type of guidance services sought by students.** Students sought educational guidance (66 percent), personal adjustment counseling (17 percent), and vocational guidance (16 percent).
- **Student sources and utilization of guidance services.** Counselors (65 percent) and parents (64 percent) ranked ahead of teachers (35 percent) and friends (33 percent) as sources of assistance; 88 percent reported they knew that vocational guidance was available but only 43 percent used it!
- **Role of teachers in the guidance program.** Twenty-five percent or fewer participated in the guidance programs.
- **Counselor conferences.** Median number of conferences for 4 years was 4, each for a median time of 16 minutes (as reported by students.)
- **Counselor's time.** A median of only 40 percent of a counselor's time was spent in counseling with individual students, mostly with reference to college education, not career choice.
- **Pre-entrance guidance for vocational programs.** Twenty-three percent of counselors gave "prime direction" and 63 percent "assisted" students, but most ranked student interests as the criterion for admission, not aptitude scores or school achievement.
- **Use of standardized tests.** Counselors ranked intelligence, achievement, and aptitude tests as most useful to them, but how much they used them was not determined.
- **Adequacy of occupational information.** Only 56 percent of students reported it was "very helpful"; 29 percent checked it was "too general"; and the remainder said it did not answer their questions.
- **Student-counselor ratios.** The median ratio was 380 students for each counselor.

To summarize Campbell's (1968) survey findings briefly, counselors spend less than half their time with high ratios of students in a 15-minute conference on college education or school achievement once a year with minimal use of standardized tests and negligible assistance from teachers and parents. Such a picture of career guidance programs across the country stands in sharp contrast to statements of what they should be and what career development theory would suggest they be.

Myers

Unlike Campbell (1969) who gathered data, Myers (1971) reviewed data gathered by others. He organized his review essentially into two major parts: studies of decision making and studies of role functioning. The first was further subdivided to discuss accuracy of self-knowledge, appropriateness of vocational preference, and instrumental behavior; the second covered general adjustment and academic performance at the elementary-secondary and college/university levels. The sum substance of this review was less a distillation of verities from the research literature for enhanced and enlightened counseling practice than it was a penetrating and often disturbing critique of methodology commonly used to study career (and related forms of) counseling, whether dyadic or group-based. However, there were a few empirically documented procedures worth recommending. The most noteworthy contributions of Myers' review were his suggestions for future research and practice, a sampling of which include the following:

- The effects of counseling should be evaluated experimentally, inquiring into *the relationship of specific counseling procedures to specific* counseling goals. (p. 871; italics added)

- Clients involved in educational-vocational counseling have characteristic differences that deserve careful scrutiny and accurate description . . . clearly, then, the research on counseling practice—and, more important, the practice itself—must be planned in the context of where the client is in his [sic] growth process, what decision tasks are unique to his age and grade, and what treatment goals are appropriate at his stage. (p. 874)

- To some degree, all the research on individual counseling suffers from the limitations of a set of assumptions that can be expressed as follows—

  -- All clients within a given study who seek and/or receive counseling are more or less alike.

  -- All counseling provided within a specified treatment condition of a given study is essentially the same thing.

  -- The outcome criteria used in a given study are equally appropriate for all clients treated in a similar way. (p. 880)

The implications of these conclusions lie at the core of a new approach to the implementation and evaluation of career guidance programs as proposed in the next two sections of this monograph.

Oliver

Myers' last observation is the principal topic for Oliver's (1979) review of "Outcome Measurement in Career Counseling Research," but she also comments on "Design and Analysis." She largely reiterates caveats and criticisms from the measurement and methodological literature, such as "Report reliability and validity data for the instruments you use" and "Include a control group in the

design," which would be superfluous were it not that, as she points out, research on career counseling (and guidance) is replete with measurement and methodological flaws and shortcomings. These studies are mostly the handful of reports (20 percent) that are accepted for publication, which may be as much a commentary on journal editors and their consultants as it is on the researchers (and their dissertation advisors?). What Oliver's review throws into sharp relief is the discrepancy between what research on career counseling and guidance should be and what it is. How can any legitimate substantive conclusions be drawn from research so wrought through with the criterion and design errors she enumerates. The only encouraging note from her review, which resonates a recurrent theme from Krumboltz (1966), Myers (1971), Bergin and Garfield (1971), and others, and which constitutes a parameter in formulating a *Person*-oriented approach to career guidance, is her observation that "perhaps individual criteria should be developed for each client" (Oliver 1979, p. 223).

Fretz

This review started where Oliver's left off. Fretz's (1981) general conclusion is that—

> Little progress can be made in improving the effectiveness of career interventions until more specific and systematic evaluative attention is given to (a) the treatment parameters in myriad contemporary interventions; (b) the relationship of participant attributes to the effects of treatments; and (c) the relationship of both treatment parameters and participants' attributes to the diversity of career-related behaviors, sentiments, and learning that presently serve as outcome measures for evaluating career interventions. (p. 77)

This complex of variables are what Fretz and others (e.g., Cronbach and Snow 1977; Garfield 1977) call Attribute-by-Treatment Interactions (ATIs), which he has enumerated and classified in Exhibit 1. Simply stated, the hypothesis is that the outcomes of career counseling and guidance are a function of the interaction (or differential combination) of client attributes and the treatments they receive. Fretz (1981) notes that "Crites (1974) has identified five major theoretical approaches to career counseling: psychodynamic, developmental, trait and factor, behavioral, and client-centered," but that, "Of the few studies comparing career interventions, none has selected interventions specifically to represent contrasts of these theoretical domains" (p. 81). Extrapolating from this conclusion and the meager (and conflicting) results from a global investigation of ATIs, Fretz (1981) closes his review with this implication for future research:

> Small, focused studies can be conducted by many counselors with minimal research support and, if conducted in accord with these recommendations (focus on ATIs), may contribute as importantly, even if not as extensively, as comprehensive, national studies. (p. 85)

Holland, Magoon, and Spokane

In their Annual Review chapter on Counseling Psychology, Holland, Magoon, and Spokane (1981) devote a short section on career interventions, which covers the research literature for the period 1978-79. Observing that— "the majority of old and new treatments have generated little evaluation or research," they conclude from those studies available that

> The experimental evaluations of counselors, career programs, card sorts, interest inventories, workshops, and related treatments imply that the beneficial effects are due to the common

EXHIBIT 1
DIMENSIONS OF CLIENTS, TREATMENTS, AND OUTCOMES

Client attributes	Treatment parameters	Outcomes
Demographic	Content domain	Career knowledge & skills
Sex	Occupational information	Accuracy of self-knowledge
Race	Self-knowledge	Accuracy of occupational information
Age	Decision skills	
Socioeconomic/educational level		Accuracy of job-seeking skills knowledge
Urban/rural origin	Interpersonal context	Planning and goal selection skills
	One-to-one counseling	Appropriateness of choices (realism)
Psychological	Group counseling	Range of choices
Intelligence	Self- or computer-administered	
Cognitive complexity		Career behavior
Need for achievement	Degree of structure	Career information seeking
Focus of control	Highly structured	Relevant academic performance
Ego strength	Semistructured	Seeking initial/new job
Self-confidence	Unstructured	Getting initial/new job
Anxiety		Job ratings
Dependence		Being promoted
Defensiveness		Earnings
Personality type		
		Sentiments
Career related		Attitudes toward choices: certainty, satisfaction, commitment, career salience
Type of undecidedness		
Career maturity		Job satisfaction
Attitudes toward choice		Quality of life ratings
Career decision style		Satisfaction with intervention
Motivation for treatment		Perceived effectiveness of intervention
Expectancies for treatment		
		Effective role functioning
		Self-concept adequacy
		Personal adjustment
		Personal adjustment
		Relapses of career problems
		Contributions to community

SOURCE: Reprinted, by permission of the author, from B.R. Fretz, "Evaluating the Effectiveness of Career Interventions." *Journal of Counseling Psychology* 28, no. 1 (January 1981): 77-90. Copyright 1981 by the American Psychological Association.

elements in these divergent treatments: (a) exposure to occupational information; (b) cognitive rehearsal of vocational aspirations; (c) acquisition of some cognitive structure for organizing information about self, occupations, and their relations; and (d) social support or reinforcement from counselors or workshop members. (p. 285)

They do not state what the "common elements" are, but they do add that "the general failure to find different effects for different treatments demonstrates a large hole in our understanding of client-treatment interactions and indicates that need for more analytical and less shot-gun evaluation" (Holland, Magoon, and Spokane 1981, pp. 285-286). How similar this conclusion is to those drawn by Myers (1971), Oliver (1979), and Fretz (1981)—cumulating consensual validation of the need for focused research on ATIs in assessing the effectiveness of career counseling and guidance.

Spokane and Oliver

A quantitative review using meta-analysis procedures, Spokane and Oliver's (1983) summary of 52 vocational interventions, in which experimental groups were compared with control groups, yielded a cumulated effects size coefficient of .85. Because the sampling distribution for effects sizes is unknown, the significance of this coefficient cannot be determined. However, Spokane and Oliver (1983) interpret their finding as follows:

Our integrative analysis of 52 investigations of the outcome (sic) of vocational intervention confirms the conclusions of previous reviewers that vocational interventions generally have beneficial effects. (p. 124)

That this conclusion may have to be regarded with caution is suggested by Hotchkiss and Dorsten (1985), who point out that "Spokane and Oliver aggregate effects that are not statistically significant in the same manner in which they handle those that are significant" (p. 7). What these reviewers found, however, generally agrees with previous reviews that have concluded that "almost any intervention will have some effects but that they are global and nonanalytical" (Spokane and Oliver 1983, p. 124).

Campbell, Connell, Boyle, and Bhaerman

Perhaps the most comprehensive review of this entire series is the one Campbell and his associates (1983) conducted at the National Center for Research in Vocational Education. The results of over 200 studies were compiled and summarized, leading to these conclusions:

- The preponderance of evidence suggests that career guidance interventions achieve their intended objectives if guidance personnel are given the opportunity to provide structured guidance interventions in a systematic, developmental sequence.

- Career guidance has demonstrated its effectiveness in influencing the career development and adjustment of individuals in five broad areas: —improved school involvement and performance—personal and interpersonal work skills—preparation for careers—career planning skills—career awareness and exploration.

- Career guidance has been successful in assisting individuals representing a wide range of subpopulations and settings, such as in correctional institutions, vocational training centers, community colleges, and rehabilitation centers.

- The number and variety of career interventions have greatly increased, giving researchers and practitioners a larger pool of treatments from which to draw. For example, due to significant progress in computer applications for career exploration and choice, there are several dozen models from which to choose.

The tenor and tone of these conclusions is very positive, if not optimistic, despite the measurement and methodological limitations noted by Campbell et al., which are quite similar to those enumerated in other reviews and which are almost contradictory to the conclusions drawn. It seems highly improbable that more than 75 percent of the 200 studies reviewed by Campbell et al. were sufficiently sound psychometrically and experimentally to conclude "The preponderance of evidence suggests that career guidance interventions achieve their intended objectives" (p. 56). The recommendations for career guidance practice and research made in this review, therefore, must be tempered with methodological considerations. These recommendations are listed in Exhibit 2, where it is apparent that they nevertheless substantially agree with the substance of the other reviews. They also converge on the *Person*-oriented approach to career guidance proposed in this review.

Hotchkiss and Dorsten

Hotchkiss and Dorsten's (1985) report is both a qualitative review of the literature as well as a quantitative study of career guidance programs. From their "review of reviews," Hotchkiss and Dorsten (1985) conclude:

> Summarizing the research on the effects of guidance and counseling utilizing high school students leads to an overall picture of research on guidance interventions as (1) providing conflicting conclusions about whether those receiving treatments accrue more benefits than those not receiving treatment, suggesting that these studies indicate what specific aspects of guidance and counseling could do rather than what it has done to affect student behavior (Herr 1982) and (2) confounded by complex interactions between sex, SES, school and guidance program characteristics (e.g., staff and administrative support, career resource availability) as well as by type of treatment (group or individual). (p. 7)

They add to this negative evaluation that "the impact of career guidance programs requires further in-depth examination before firm conclusions regarding the effectiveness of career guidance are justified" (Hotchkiss and Dorsten 1985, p. 9).

Using a large-scale data base from a nationwide study, *High School and Beyond* (Jones et al. 1983), they proceeded to conduct quantitative analyses of the effects of active career guidance programs, using data from two points in time on almost 11,000 students from different regions of the country with varied status characteristics, and they obtained remarkably consistent *negative* results. They state:

> The conclusion is clear, based upon the data presented here, neither the predictions drawn from career guidance goals nor those based on the critiques of schooling and guidance are supported. In fact, attending a school that has an active career guidance program does not appear to have much affect one way or the other on any of the outcomes studied here. (Hotchkiss and Dorsten 1985, p. 33)

Such a commentary, based upon broadly representative data and "state-of-the-art" statistical analyses, highlights the need for formulating a *new* model for implementing and evaluating career guidance programs.

EXHIBIT 2

CAREER GUIDANCE PRACTICE RECOMMENDATIONS

1. **Programs should be designed for the continuity of individual career development.** A major disadvantage of examining the outcomes of various career interventions is that one often overlooks the total continuity of individual career development as a person progresses from one career stage to the next. Typically, the studies that have been reported only deal with a piece of individual career development (e.g., exploration or decision making). It is important that programs be designed and evaluated to look at the continuous growth of individuals developmentally across stages. Programs should be more comprehensive in providing this developmental process for the individual. Too often, program developers feel they have done their job simply by completing the initial stages of developing career awareness, exploration, and decision making. Additional assistance should be offered for the continuation of this development through subsequent stages through such activities as assisting with implementation of plans, the selection of education programs, and job placement and adjustment.

2. **More emphasis should be placed on exploiting what activities work and on strengthening them to achieve optimum career guidance effects.** Too often, program developers invest their time in reinventing the wheel rather than in strengthening what currently exists. Resources should also be expended to strengthen weaker areas of intervention, such as job findings, placement strategies, and vocational adaptation.

3. **There is the need to establish a larger number of highly trained, institutionally supported and effective teams of guidance workers.** Pinson, Gysbers, and Drier (1981) advocate this to assure a more comprehensive delivery of guidance services to all students in all settings.

4. **A comprehensive list of client competencies should be developed to provide program direction.** The many studies reviewed in this report identified an impressive array of client objectives to be achieved by career guidance programs. Although they were organized here into five broad themes for reporting purposes, there was no attempt to organize them into a series of sequential client competencies that could provide national direction for programs.

5. **School- and agency-based career guidance activities should be more closely integrated with private sector experiences for clients, whenever feasible.** A number of studies demonstrated the importance of real world experience in achieving career guidance objectives; they provided an essential element of realism and relevance for the student.

6. **Programs should not rely solely on a few traditional techniques to achieve their program goals.** Due to the wide ranges of program goals and individuals within a program, programs should be expanded to include a variety of interrelated activities that systematically foster career development.

7. **Career guidance activities that are too general or ambiguous should be avoided.** Carefully planned and highly structured career guidance activities should include (1) clearly stated objectives in terms of client outcomes, (2) specific and meaningful client activities to achieve the objectives, and (3) a measure of assessing client achievement of the objectives.

8. **Self-initiated, periodic evaluation of the degree to which career guidance programs are achieving their objectives should be conducted more frequently.** If formal evaluations are not feasible due to time constraints, alternative evaluation procedures should be considered informally, such as holding an open forum to assess program status. The latter can be quite effective in determining what works, what does not work, and in identifying program impediments.

9. **Counselor education programs should be competency based in order to insure that counselors acquire the necessary skills to meet the full range of their clients' needs.** The studies reflected a wide latitude of program objectives which require a broader range of skills than traditionally have been provided.

SOURCE: Campbell et al. (1983), pp. 59-60

EVALUATION MODELS FOR CAREER GUIDANCE PROGRAMS: A CRITIQUE

That the literature on career guidance programs, whether conceptual or empirical, is confusing and often contradictory seems apparent. Not only are there opposing viewpoints on the value of career guidance programs, but findings of several hundred studies are either flawed by criterion and/or methodological shortcomings or they provide scant support for the effectiveness of vocational interventions. There is some empirical support, however, for the beneficial outcomes of career guidance programs—they *do* make at least a minimal positive difference in the career decision making and development of young people during the high school years. Why these programs have such minimal impact poses a penetrating question. Some answers, extrapolated from the "review of reviews," are proposed in the discussion that follows of (1) the "Inverted" Policy, Program, Person pyramid, (2) the myths and realities of career guidance program implementation, and (3) the need for a new framework for implementing and evaluating career guidance programs.

Policy, Program, and Person: The "Inverted" Pyramid

There is a relationship among (1) Policy statements by leaders in the field of career guidance and by the professional associations (e.g., NVGA), (2) Program purposes and objectives, and (3) Person services and benefits that can be depicted as an "Inverted" pyramid (see figure 1). On the top level of the "Inverted" pyramid are Policy statements, which dominate the definitions and directions of the career guidance field. Reflecting both the traditional approaches to career guidance (i.e., the Parsonian "matching model") as well as contemporary emphases upon the developmental nature of career decision making, there is no question that the Policy statements have tremendous verbal impact on the field as well as funding agencies, despite the criticisms of Barry and Wolf (1962), Ginzberg (1971), Warnath (1975), and others. Counselors, teachers, some parents, and a few principals pay lip service to these statements of what career guidance is and how it benefits the individual and society, but seldom are the words translated into actions. Too often they remain platitudes that are too idealistic, too general, and too infrequently supported by fact.

If this indictment of Policy statements seems too severe, then consider the extent to which they have been implemented in career guidance programs, the second level of the "Inverted" pyramid. Although there is some evidence of the effectiveness of career interventions, it is inflated by the calculation of cumulated effects sizes (Hotchkiss and Dorsten 1985; Spokane and Oliver 1983) and based upon outcome criteria that are suspect at best (Oliver 1979) and that are often only remotely related to the objectives of Policy statements. Even when such salient variables as (1) locus of control and (2) self-esteem are used as outcome criteria (Hotchkiss and Dorsten 1985), the results are clearly negative! Criticisms can be made of this study, as they can of most studies, but the weight of the empirical evidence is contrary to most of the goals delineated in Policy statements—with the exception of one outcome variable. A tabulation of the outcome criteria reviewed by Spokane and Oliver (1983, pp. 110-117) reveals that the most numerous and largest cumulative effects sizes are yielded by measures of career maturity (Career Maturity Inventory, Career Development Inventory, Assessment of Career Decision Making). It is noteworthy that *all* of these inventories measure what Crites (1978) terms *career choice process*, not *career choice content*. Not only have indices of the latter lacked psychometric reliability and validity (Myers 1971; Oliver 1979), but when they have had

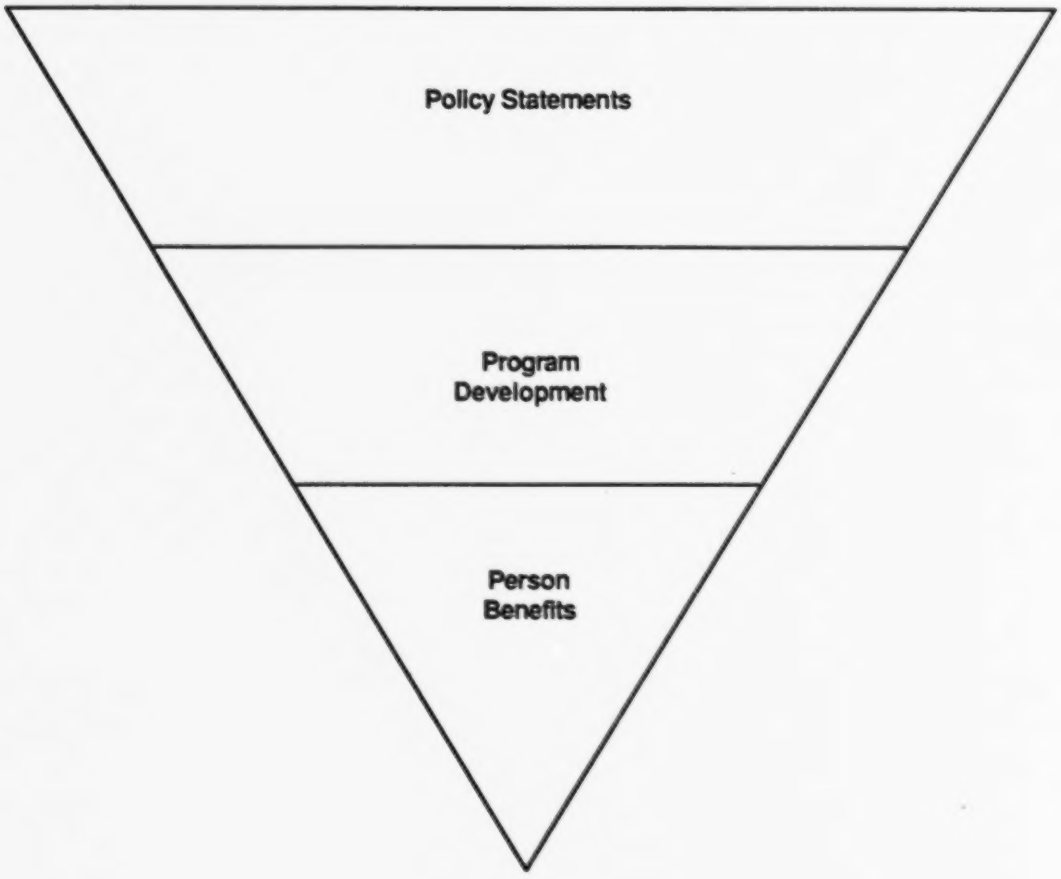

Figure 1. The "Inverted" pyramid of policy statements, program development, and person benefits from career guidance programs.

acceptable measurement properties, they have not shown appreciable effects of career guidance programs. In other words, career guidance programs appear to have their most significant effect upon the *process* variables (career choice attitudes and competencies) in career development, as compared with the content variables (i.e., realism of career choice). No wonder, then, that there is a discrepancy between Policy statements, which cover a broad spectrum of *content* outcomes (from classroom achievement to personality changes), and Program effects, which seem to be centered largely upon career choice *process*.

At the bottom of the "Inverted" pyramid is the Person in the overall schema of career guidance programs. One of the directives of *this* review was to evaluate the effects of career guidance programs on "individual students." Whatever evidence there is, whether survey or experimental, indicates that the impact of career guidance programs on individual students is either inconclusive or incomplete. In effect, we do not know what difference career guidance programs make on *individual* students. The only encouraging summation of data is that participation in career guidance programs by individual students apparently facilitates their career maturation. More specifically, this means that they are more mature in their career choice attitudes and competencies after an interventive career development experience than they were before (or, as compared to a control group). Because there is evidence from several empirical studies that increased career maturity is related to greater subsequent realism of career choice, however poorly defined and measured, the implication of these findings is that career guidance that affects career development process variables also has a significant effect upon career choice content variables. Given a sufficient threshold of career maturity, there is a greater likelihood of career realism. It is at this Person level in the "Inverted" pyramid that the Policy statements about career development can be translated through Program commitments to have a meaningful effect upon the Person, who should be the focal point of the entire system.

Myths and Realities of Career Guidance Programs

There are several myths that surround the activities of career guidance programs in the schools. Not the least of these involves the counselor, who, according to Policy statements and Program imperatives, is the key person in organizing, directing, and offering career guidance services. In actuality, however, as national surveys such as Campbell's (1968) indicate, there are several constraints on counselors that severely circumscribe their impact as service providers. Not only do student/counselor ratios far exceed what is considered ideal, but counselors often spend more time in noncounseling activities than in career guidance. Moreover, their focus is usually more on college choice and school achievement than career development. But even if they had sufficient time and adequate budgets and materials, it is clear that the assumption that students will avail themselves of career guidance is largely a myth. Contrary to expectations, students are not highly involved in the services counselors offer, when and if they offer them. It is all the more remarkable, then, that career guidance programs have the positive effect they do. Perhaps it is exactly because evaluations of career guidance programs have involved students in them that the effects have been found. The implication is that student involvement in career guidance activities needs to be systematically programmed if they are to benefit from the services.

Still another myth, which has long been recognized in critiques of psychotherapy (Kiesler 1971), is that the effects of career guidance programs are uniform and monolithic. Policy statements typically assume the uniformity myth, and Programs are often designed accordingly, yet individual students may react quite differently to the same career guidance program, what has been termed the *fan effect* (Crites 1981). Some clients may make positive gains as a result of the guidance services, some may make no gains, and some may experience negative gains. That is, they score lower on the

posttest outcome criteria than they did on pretests. Why this phenomenon occurs is not known at present, although some hypotheses based upon ATIs (Fretz 1981) have been proposed. Whatever the reason for these differential responses to treatment, the implication is that greater attention to individual differences among students needs to be given in both Policy statements and Program designs.

That analysis of ATIs may provide an answer to the *fan effect* appears a promising approach. Not only does it make allowance for individual differences in attributes that interact with some treatment parameters and not others, but it presumably offers the possibility of empirically establishing which ATIs are most effective before intervention and thus constituting a basis for diagnosis and prognosis (Crites 1981). Studies of ATIs, however, have been less than encouraging in their findings (Hotchkiss and Dorsten 1985). There are few clearly identifiable Attributes that appear to Interact with differential Treatments, including such obvious variables as gender, ethnic/racial group, and chronological age. Where interactions have been found, they are complex with barely significant effects (not robust) or are confounded with main effects, which makes them difficult to interpret. Perhaps ATIs are also a myth, particularly when carried to their extreme logic each client becomes *sui generis* (a class or category *per se*). Choice of treatment (career guidance) then becomes custom-made to the individual: what are his or her expected outcomes from counseling and how can these best be achieved with this person at this point-in-time? Thus, *Person*-oriented parameters are substituted for ATIs based upon frequently questionable group data.

The "Verted" Policy, Program, and Person Pyramid

If the realities instead of the myths of career guidance are considered, then the "Inverted" pyramid of policy, program, and person should be "Verted," that is, person should be at the apex, program intermediate, and policy on the base or foundation (figure 2). A *Person*-oriented program grounded in circumspect Policy statements is then thrown into clear relief. The revised schema is not only more conceptually consistent, but it better reflects what is known empirically about the effectiveness of career guidance. It also puts the focus upon the individual student where it ultimately should be. The question that remains is: How can the *Person*-oriented approach be implemented within the complex of policy statements and program guidelines?

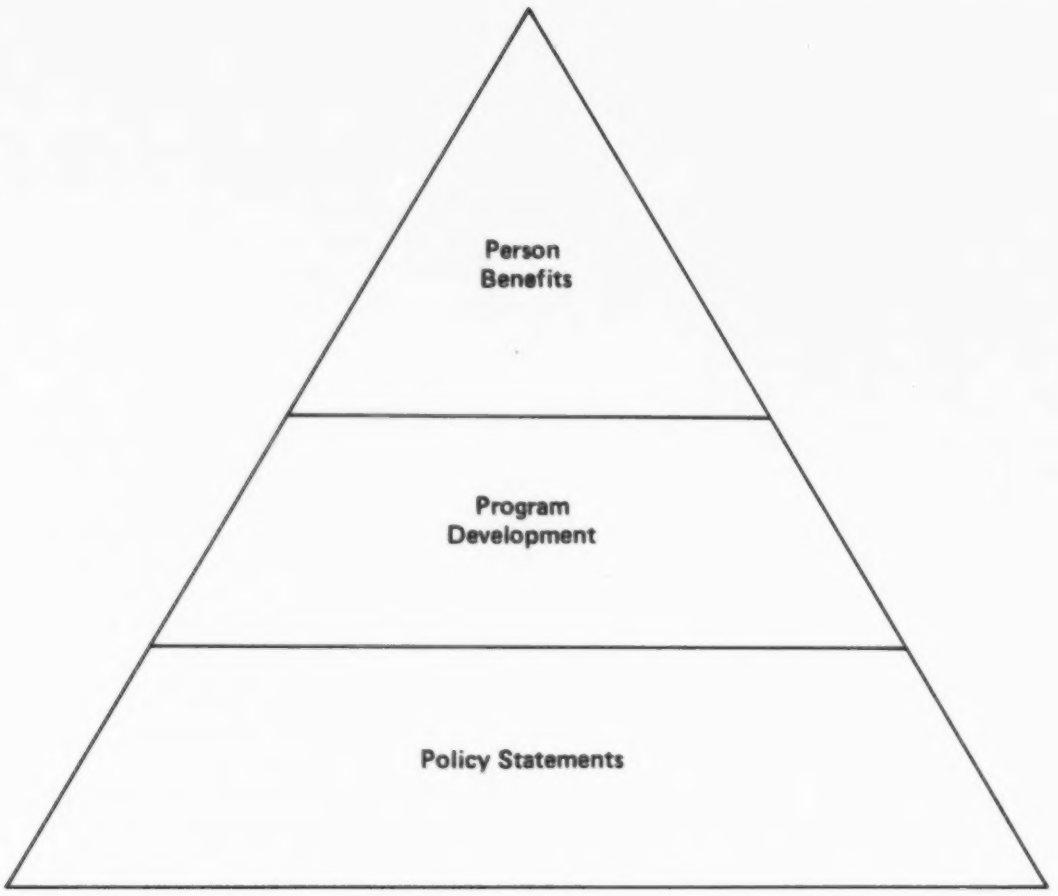

Figure 2. The "Verted" pyramid of the Person-oriented approach to career guidance.

EVALUATION METHODS AND MICROCOMPUTERS FOR CAREER GUIDANCE: A *PERSON*-ORIENTED APPROACH

Implicit in this question, and in the "Verted" pyramid, is an approach to *Person*-oriented career guidance, based upon the principle of *reverse programming*. Rather than formulating broad policy statements, which at best are only minimally implemented through program, reverse programming starts with the outcomes of guidance for *each* person. Using a common metric to assess the extent to which each person's career objectives have been attained (Cytrynbaum et al. 1979; Krumboltz 1966), not only can the effectiveness of the intervention used with an individual student be traced back to his or her Attributes and their Interaction with the Treatment (ATI), but these can be aggregated across students to provide an overall Program evaluation. From these collective results, Policy statements based upon empirical criterion evidence can then be stated. How this conceptual framework of reverse programming can be used is the subject of this last section in the review. It covers the following topics: (1) career-by-objectives, (2) a systems approach to career counseling, and (3) evaluation models and methods.

Career-by-Objectives

The analogue for career-by-objectives (CBOs) is the well-established practice in business and industry of management-by-objectives (MBOs). Following reverse programming principles and procedures, the rationale for specifying MBOs is first to delineate what the desired outcomes of a program are and then to "work back" through each step that is necessary to achieve the objectives. Not only does this process establish an accountability criterion for the program, that is, the extent to which the objectives are attained (usually expressed in percentages), but it also eliminates through reverse programming unnecessary steps for goal attainment. Because goal-irrelevant steps are eliminated, the cost effectiveness of MBO programs is appreciably greater than more global approaches that are less specific and directed. Costs can be objectively defined by amount of time invested in the program as compared with others, the resources expended ("dollars and cents"), the number of personnel needed to achieve the objectives, and so on, all of which can be factored in as parameters for a cost-benefit analysis. Thus, inherent in MBO programs are the criteria for evaluating them, the parallel for assessing the effectiveness of career guidance programs being obvious.

The concept of CBOs is new and needs to be articulated further to indicate how it is at the core of a *Person*-oriented approach to career guidance. Following the rationale for MBO programs, the **first step** would be: What outcome(s) does this student want from his/her contacts with the career guidance counselor? Answers to this question may range from choice among career options to how a course of study relates to particular careers. Or, as is so often true of undecided students, the objective is to decide upon an objective. The counselor and client work collaboratively on formulating CBOs that can be achieved within a given time frame, which is frequently a central consideration in career guidance because clients typically want to make a decision "right now." This sense of urgency (or what Crites [1986b] has termed the *immediacy imperative*) must be built into the **second step** in CBO career counseling, which is to specify what has to be done to accomplish an objective, beginning with the next to last behavior or activity and reverse programming to the beginning of the career counseling process. Each of these behavioral acts by the client and/or counselor is then listed in the agreed-upon sequence to constitute the career counseling plan. If

contingencies arise in implementing the plan that calls for revising it, then appropriate changes are made, but they must be consistent with the objectives. Also, if it becomes apparent during the counseling process that the objectives need revision, then new CBOs are delineated, along with steps necessary to attain them. Thus, this approach to a *Person*-oriented career guidance incorporates flexibility while it achieves specificity.

To illustrate how reverse programming was used with an actual client, consider the case of Randy, a high school senior who came for career counseling because he was undecided. During the first interview, it became apparent that his primary CBO was to make a career choice, but that he had no idea of how to accomplish this objective, never having made a major life decision before. The counselor explained that before he could make a career choice he needed to relate his aptitudes and interests to those required by different occupations and identify those that were most realistic for him. To do this, Randy first needed to have information about himself and the world of work. The counselor pointed out, however, that to use this information in translating his self-concept into a compatible occupational role, he had to be career-*ready* or mature enough to *make* a decision. Because he came for career counseling due to his indecision, it seemed important to assess his career readiness (career maturity). Therefore, Randy and the counselor agreed on the following sequence of steps in the career counseling plan:

- last step: declare a career choice (CBO)
- fourth step: gather occupational information
- third step: take aptitude tests and interest inventory
- second step: increase career readiness
- first step: assess career readiness

Reversing these steps, the counseling began with Randy taking the Career Readiness Inventory (CRI) and progressing through the the remaining steps to his CBO.

A Systems Approach to Person-oriented Career Counseling

This highly abbreviated summary of the career counseling for Randy reflects a general schematic for career counseling based upon the systems approach shown in figure 3. There are three levels in the system, the topmost being Theory, which represents the distinction made previously between career choice *process* and career choice *content* (Crites 1978). To the left are the process variables *attitudes* and *competencies* that determine the readiness of an individual to make a career choice. Analogous to the concept of reading readiness, career readiness is a *sine qua non* for career decision making. If a student is sufficiently career ready (has mature attitudes and competencies), then he or she can make a realistic career choice, based upon aptitudes, interests, and opportunities, as depicted on the right side of figure 3. This progressive "funneling" of career options, through what Tyler (1961) calls the "exclusion process," culminates in a career choice—and its implementation in job search and placement.

On the Testing level of the system, the process and content components of career choice are given operational definition by inventories, tests, booklets, and forms that are used in the *Person*-oriented (CBO) approach to career guidance. The Career Readiness Inventory (CRI) (Crites 1985b), a second generation revision of the Career Maturity Inventory (CMI) (Crites 1978), measures the

degree of career development of the student's choice attitudes and competencies. The CRI can be either hand or machine scored and the results interpreted with the *Career Developer* (Crites 1986a), which also "teaches the test," so that by explaining the career-ready responses to the CRI career maturity is significantly increased (Crites 1985c). Given a sufficient threshold of career readiness, the student next takes aptitude and interest measures as a basis for career choice *content*. These are reported and interpreted on the *Career Decision Maker* (CDM) (Crites 1984), a form based upon instructional design principles, which takes the student through each step in the career decision-making process. Finally, using the *Guide for Occupational Exploration* (GOE) (U.S. Department of Labor 1984), the student translates aptitudes and interests into primary and secondary career paths projected over the next 5 years, with the help of the *Career Path Finder* (Crites 1985a). These career paths, including relevant intermediate education and/or training, constitute the student's CBOs.

The data upon which they are based is processed in the system on a third level (not shown in figure 3), which is Technology. If it were not for the recent developments in synchronized computer and peripheral technology, the systems approach to career guidance would not be possible. However, there are now available three components that make the system a reality and that have made possible its field testing during the past 5 years. The first component is a National Computer System (NCS) Sentry 3000 Scanner, through which aptitude and interest answer sheets can be processed and scored by the computer in a matter of seconds. The second component, a personal computer (e.g., IBM PC/XT), not only scores the aptitude tests and interest inventories, but also, through a specially developed software program (Crites 1985), compares the student to all 12,000 occupations in the economy and prints out the realistic career options on the CDM in less than a minute! Thus, the Technology accomplishes in a fraction of the time the profile or psychograph (Crites 1969) comparisons that took counselors, using inspectional/subjective techniques, many hours to complete.

Evaluation Models and Methods

Using the storage and retrieval capabilities of the microcomputer, a variety of data on each student can be processed to assess goal attainment (career counseling success) and to aggregate outcomes across students for the evaluation of career guidance programs in schools and districts. Primary data for such analyses are (1) the goal attainment scale score, (2) client attributes (demographic and/or psychometric), and (3) type of "treatment" or approach used in the career counseling. Other significant parameters that can be factored are (1) number of client contacts, (2) length of each contact, (3) counselor/client gender, (4) individual and/or group guidance, and so forth. All data can be entered into the microcomputer either on scannable forms or by manual key entry by the counselor or a clerk. A "file" is created in the computer for each student that can be manipulated for any number of relevant statistical analyses. These will vary, of course, from one program to another, but the basic evaluation software can be uniform for any situation in which there is an interest in accountability and cost-benefit analysis. Descriptive statistics on program activities for administrative purposes can also be easily generated as can cumulative career records. Thus, the systems approach to *Person*-oriented career guidance can serve many purposes.

There is no reason why the counselor cannot also play the role of researcher in the systems approach. "User-friendly" statistical packages can be created that assist the counselor having no statistical background or training in conducting rather sophisticated statistical analyses that yield career guidance program evaluations. Among these statistical techniques are contemporary analyses of single-subject data (Foster 1982) and time-series observations (Cook and Campbell 1979), as well as traditional between and within paradigm methods (Crites 1983). Using a "stat-pack" menu, for example, a counselor can select the type of analysis desired, and a canned "stat-pack" selects appropriate data from student files, conducts the analyses, and prints out the results, which can be

CRITES CAREER COUNSELING

CAREER DEVELOPMENT—EXPLORATORY STAGE

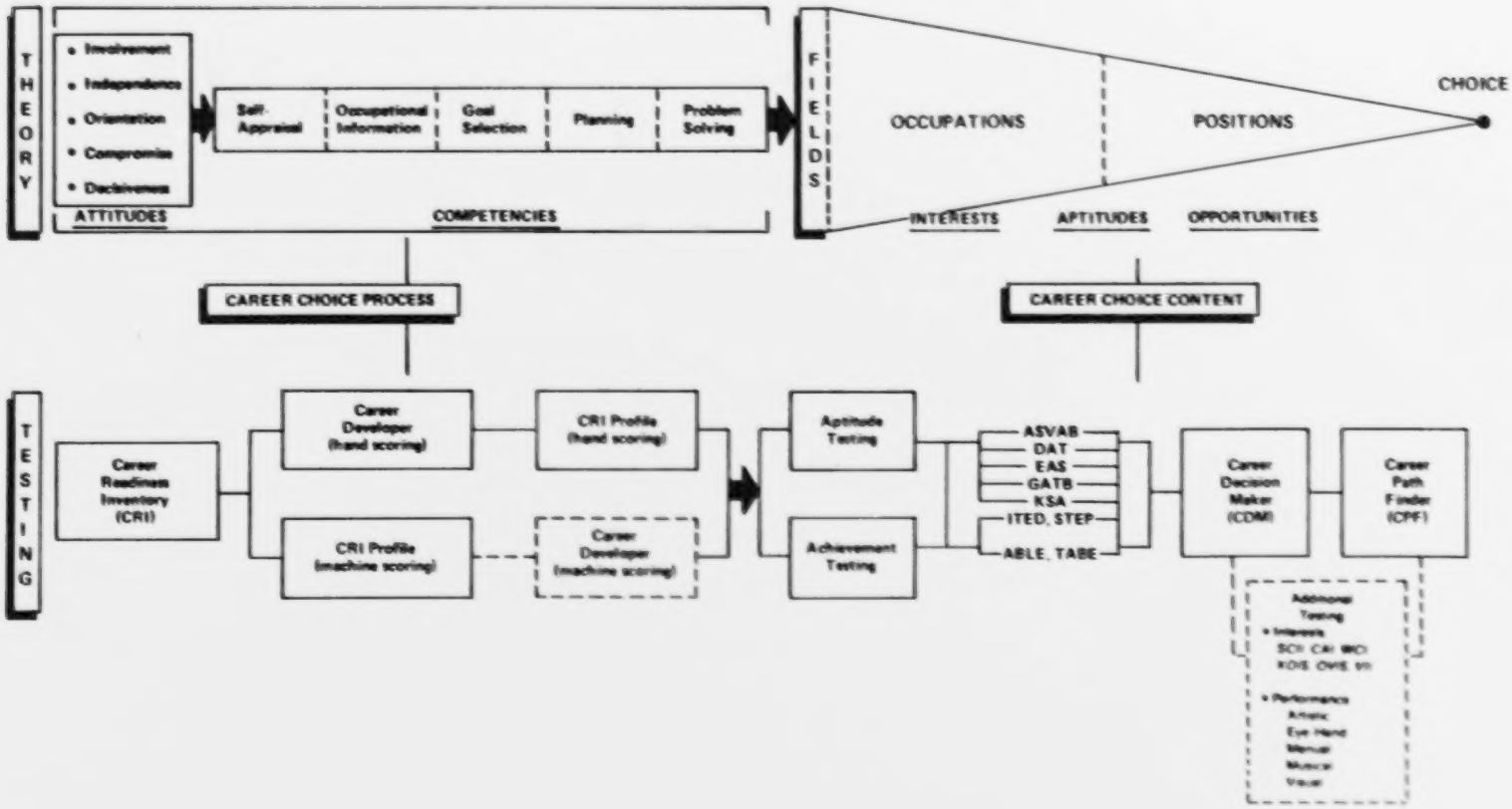

Figure 3. A systems approach to person-oriented career guidance

phrased verbally in a narrative for caseload accountability or program evaluation purposes. In short, the microcomputer can be used not only for career assessment and counseling, but also for assessing the effectiveness of the *Person*-oriented approach to career guidance.

Although this approach focuses upon the individual, it can also be used in a group format to broaden the service delivery base. There are two ways in which this can be done, given that the career assessment component (CRI, Career Developer, CDM, and CPF) is part of the program. One group format is what traditionally has been called "group guidance," in which 8-10 students meet with a career counselor. A general orientation can be given to the career assessment materials and group members can either use the largely self-interpretative forms on their own or pair up with someone else, with the counselor providing assistance as needed. Another group format is to present a career development course, such as that prepared by Savickas and Crites (1983) which involves the classroom teacher in the career guidance course. This course has easy-to-follow lesson plans, exercises for students, overhead transparencies, and test materials, all keyed to career assessment and career decision skills. The course can also be programmed for the Burroughs ICON computer, which has a terminal for each student in the classroom but which allows interaction among students and with the teacher. Moreover, it offers the exciting possibility of involving parents with the students, in a series of "career nights," during which they work collaboratively at the terminals to explore career options.

SUMMARY

Combining the systems and *Person*-oriented approaches to career guidance in the schools not only provides a new way of prioritizing values (the "Verted" pyramid) but also addresses several reality problems identified in previous reviews. First, use of counselor time is more effective, even if the time spent by counselors is no more than it has been in the past. Second, career guidance can be offered in addition to the usual guidance on college choice and school achievement. Third, students can be involved in the determination of their career development in a variety of individual and group formats, without affecting the integrity of the *Person*-oriented approach. Fourth, both teachers and parents can act as resource persons for students in implementing the program. Fifth, evaluation of the career guidance program, with an objective outcome measure (goal attainment scale score), is "built into" the service delivery system. It is entirely possible that the focus of the future for career guidance in the schools is upon a *Person*-oriented approach, implemented through systematic Program development and inherently consistent with Policy statements.

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